

## *Notice of Intent*

---

# **Wachusett Substation No. 47 Expansion** **West Boylston, Massachusetts**



*Prepared for*  
New England Power Company  
55 Bearfoot Road  
Northborough, Massachusetts 01532

*Prepared by*  
Mason & Associates, Inc.  
Milford, MA

*Submitted in Compliance with the  
Massachusetts Wetlands Protection Act*

December 2003

December 30, 2003

West Boylston Conservation Commission  
Mixer Building  
120 Prescott Street  
West Boylston, Massachusetts 01583-1146

Via: Hand Delivery

Reference: Notice of Intent  
Wachusett Substation No. 47 Expansion  
Temple Street  
West Boylston, Massachusetts  
Project No. 030412

Dear Ms. Padden and Members of the Commission:

On behalf of New England Power Company, Mason & Associates, Inc. respectfully submits this Notice of Intent (NOI) for work associated with the expansion of Wachusett Substation No. 47 located at 53 Temple Street (Route 140) in West Boylston. This filing, subject to advance coordination with the Conservation Commission, Massachusetts Department of Conservation and Recreation, Division of Watershed Protection, and the Massachusetts Department of Environmental Protection, is submitted pursuant to the Massachusetts Wetlands Protection Act (the "Act").

The proposed project involves the expansion of Wachusett Substation No. 47. This project will include new stormwater best management practices (BMPs) designed for compliance with the Department of Environmental Protection's Stormwater Management Policy. The proposed work will occur within a 100-foot buffer zone to Bordering Vegetated Wetlands (BVWs), BVW and 200-foot Riverfront Area. The information enclosed herein summarizes existing conditions, proposed work, project-related impacts, and mitigating measures.

As required, enclosed are two (one copy and one original) NOI submission packages:

- Section 1 NOI (Form 3) including Appendix A (Wetland Fee Transmittal Form) and Appendix B (Stormwater Management Form);
- Section 2 Project Narrative;
- Section 3 Abutter Information;
- Section 4 Site Plans, "Wachusett Substation No. 47", dated December 20, 2003 (3 sheets); and
- Section 5 BVW Delineation Field Data Forms.

In addition, the following reports, enclosed under separate cover, are made part of this NOI filing. These reports describe the stormwater management BMPs and erosion control measures to be used during construction:

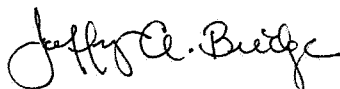
- Stormwater Design Report – Wachusett No. 47 Substation Expansion prepared by National Grid USA Service Company dated 12/20/03; and
- Stormwater Pollution Prevention Plan – Wachusett No. 47 Substation Expansion prepared by National Grid USA Service Company dated 12/20/03.

As required, two copies of this Notice of Intent have been filed with the Central Regional Office of the Department of Environmental Protection (DEP) located in Worcester, Massachusetts. In addition, a check made payable to the Town of West Boylston in the amount of \$200.00 to cover the required filing fee as per the Act is enclosed. A separate check made payable to the Commonwealth of Massachusetts for \$175.00 has been forwarded to the DEP Lock Box to cover the state portion of the NOI filing fee. As required, a check made payable to the Town of West Boylston in the amount of \$75.00 to cover the legal notice fee is also enclosed. Pursuant to the Act, abutters will be notified via certified mail that this NOI has been filed with the West Boylston Conservation Commission concurrent with the date of this filing.

It is our understanding that submission of this NOI at this time will allow the Commission to legally notice the application and required public hearing so as to appear on the Conservation Commission's February 4<sup>th</sup> agenda. In conclusion, the proposed project complies with the governing regulations such that we respectfully request the Commission to issue an Order of Conditions to permit the project to proceed as described herein.

We trust that the information included herein is sufficient to facilitate your review. Should you have any questions regarding this matter or require additional information, please contact us at (508) 422-9495. We thank you for your consideration of this Notice and look forward to meeting with the Commission at the February 4<sup>th</sup> public hearing.

Very truly yours,  
Mason & Associates, Inc.



Jeffrey A. Bridge, PWS  
Senior Associate

Enclosures

cc: Maryann Dipinto, MA DEP Central Regional Office (2)  
Paul Richards, National Grid USA Service Company



*Section 1*

---

Notice of Intent Forms





Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

Provided by DEP:

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number

Document Transaction Number

West Boylston

City/Town

**A. General Information**

1. Project Location (**Note:** electronic filers will click on button for GIS locator):

Wachusett Substation No. 47, Temple Street

a. Street Address

West Boylston

b. City/Town

01583

c. Zip Code

Latitude and Longitude, if Known:

42

d. Latitude

071

e. Longitude

149/152

f. Assessors Map/Plat Number

43/44

g. Parcel /Lot Number

**Important:**  
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



2. Applicant:

a. First Name

b. Last Name

New England Power Co. (Attn: F. Paul Richards)

c. Company

55 Bearfoot Road

d. Mailing Address

Northborough

e. City/Town

MA

f. State

01532

g. Zip Code

508-421-7549

h. Phone Number

508- 421-7520

i. Fax Number

paul.richards@us.ngrid.com

j. Email address

3. Property owner (if different from applicant):

☐ Check if more than one owner

a. First Name

b. Last Name

c. Company

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

**Note:**  
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

4. Representative (if any):

Mason & Associates, Inc.

a. Firm

Jeffrey

b. Contact Person First Name

Bridge

c. Contact Person Last Name

219 East Main Street

d. Mailing Address

Milford

e. City/Town

MA

f. State

01757

g. Zip Code

508-422-9495

h. Phone Number

508-478-3145

i. Fax Number

jbridgemason@aol.com

j. Email address

☐ Select if you want to see Wetland Fee Transmittal Form.

5. Total WPA Fee Paid (from Appendix A, Wetland Fee Transmittal Form):

\$375

a. Total Fee Paid

\$175

b. State Fee Paid

\$200

c. City/Town Fee Paid

6. General Project Description:

Expansion and improvement of an existing electrical substation located at 53 Temple Street. This work will occur within the 100-foot Buffer Zone and 200-foot Riverfront Area of a Bordering Vegetated Wetland (BVW) and perennial stream (Gates Brook), respectively. Limited alteration (i.e., tree cutting) of a forested BVW will occur. Stormwater management will be provided.



**Massachusetts Department of Environmental Protection**  
**Bureau of Resource Protection - Wetlands**

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by DEP:

DEP File Number

Document Transaction Number

West Boylston

City/Town

**A. General Information (continued)**

**7. Project Type Checklist:**

- a. ☐ Single Family Home
- b. ☐ Residential Subdivision
- c. ☐ Limited Project Driveway Crossing
- d. ☐ Commercial/Industrial
- e. ☐ Dock/Pier
- f. ☒ Utilities
- g. ☐ Coastal Engineering Structure
- h. ☐ Agriculture – cranberries, forestry
- i. ☐ Transportation
- j. ☐ Other

**8. Property recorded at the Registry of Deeds for:**

Worcester

a. County

5386

b. Book

104

c. Page Number

d. Certificate # (if registered land)

**9. Buffer Zone Only**

Is the project located only in the Buffer Zone of a bordering vegetated wetland, inland bank, or coastal bank, coastal beach, coastal dune, or salt marsh?

- a. ☐ Yes      If yes, skip to Section C.
- b. ☒ No      If no, check the resource areas to be affected by this project, directly below.



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by DEP:

DEP File Number

Document Transaction Number

West Boylston

City/Town

**B. Resource Area Effects**

**1. Inland Resource Areas**

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

**Online Users:**  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input checked="" type="checkbox"/> Bordering Vegetated Wetland	1,370 (selective tree cutting) 1. square feet	0 2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 4. cubic feet of flood storage replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet of flood storage replaced
f. <input checked="" type="checkbox"/> Riverfront area		

1. Name of Waterway (if available):

Gates Brook

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☒ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project:

18,245 (previously developed/disturbed)

Square Feet

4. Proposed alteration of the Riverfront Area:

5000±

a. Total Square Feet

0

b. Square Feet within 100 ft.

5000±

c. Square Feet between 100 ft. and 200 ft.

5. Has an alternatives analysis been done and is it attached to this NOI?

☐ Yes ☒ No

6. Was the lot where the activity is proposed created prior to August 1, 1996?

☒ Yes ☐ No



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by DEP:

DEP File Number

Document Transaction Number

West Boylston

City/Town

**B. Resource Area Effects (continued)**

**2. Coastal Resource Areas: Not Applicable**

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

**Online Users:**  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. Square feet 2. Cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. Square feet	2. Cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	1. Square feet	2. Cubic yards dune nourishment
f. <input type="checkbox"/> Coastal Banks	1. Linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. Square feet	
h. <input type="checkbox"/> Salt Marshes	1. Square feet	2. Sq ft restoration, rehab., or creation
i. <input type="checkbox"/> Land Under Salt Ponds	1. Square feet 2. Cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	1. Square feet	2. Square feet restoration, rehab.
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. Cubic yards dredged	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. Square feet	

**3. Limited Project:**

Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 or 310 CMR 10.53?

a. ☐ Yes ☒ No If yes, describe which limited project applies to this project:

b. Limited Project



**Massachusetts Department of Environmental Protection**  
Bureau of Resource Protection - Wetlands

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by DEP:

DEP File Number

Document Transaction Number

West Boylston

City/Town

**C. Bordering Vegetated Wetland Delineation Methodology**

Check all methods used to delineate the Bordering Vegetated Wetland (BVW) boundary:

**Online Users:**  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

1. ☐ Final Order of Resource Area Delineation issued by Conservation Commission or DEP (attached)
2. ☒ DEP BVW Field Data Form (attached)
3. ☐ Final Determination of Applicability issued by Conservation Commission or DEP (attached)
4. ☐ Other Methods for Determining the BVW Boundary (attach documentation):
  - a. ☐ 50% or more wetland indicator plants
  - b. ☐ Saturated/inundated conditions exist
  - c. ☐ Groundwater indicators
  - d. ☐ Direct observation
  - e. ☐ Hydric soil indicators
  - f. ☐ Credible evidence of conditions prior to disturbance

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

**D. Other Applicable Standards and Requirements**

1. Is any portion of the proposed project located in estimated habitat as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program?

- a. ☐ Yes ☒ No If yes, include proof of mailing or hand delivery of NOI to:  
Natural Heritage and Endangered Species Program  
Division of Fisheries and Wildlife  
Route 135, North Drive  
Westborough, MA 01581

June 1, 2003

b. Date of Map

2. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

- ☐ Yes ☐ No If yes, include proof of mailing or hand delivery of NOI to:  
Massachusetts Division of Marine Fisheries  
251 Causeway Street, Suite 400  
Boston, MA 02114

☒ Not applicable – project is in inland resource area only



**Massachusetts Department of Environmental Protection**  
Bureau of Resource Protection - Wetlands

Provided by DEP:

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number

Document Transaction Number

West Boylston

City/Town

**D. Other Applicable Standards and Requirements (continued)**

3. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

- a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or DEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC

**Online Users:** Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

- a. ☐ Yes ☒ No

5. Is any activity within any Resource Area or Buffer Zone exempt from performance standards of the wetlands regulations, 310 CMR 10.00.

- a. ☐ Yes ☒ No If yes, describe which exemption applies to this project:

b. Exemption

6. Is this project subject to the DEP Stormwater Policy? a. ☒ Yes ☐ No

b. If yes, stormwater management measures are required. Applicants should complete Appendix B: Stormwater Management Form and submit it with this form.

c. If no, explain why the project is exempt:

**E. Additional Information**

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

**Online Users:** Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



**Massachusetts Department of Environmental Protection**  
Bureau of Resource Protection - Wetlands

Provided by DEP:

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number

Document Transaction Number

West Boylston

City/Town

**E. Additional Information** (continued)

3. ☒ Other material identifying and explaining the determination of resource area boundaries shown on plans (e.g., a DEP BWV Field Data Form).
4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.
5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.
6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
8. ☒ Attach Appendix A, see next page.
9. ☒ Attach Appendix B, if needed.

**Online Users:**  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

**F. Fees**

The fees for work proposed under each Notice of Intent must be calculated and submitted to the Conservation Commission and the Department (see Instructions and Appendix B. Wetland Fee Transmittal Form).

No fee shall be assessed for projects of the federal government, the Department, or cities and towns of the Commonwealth.

Applicants must submit the following information (in addition to pages 1 and 2 of Appendix B) to confirm fee payment:

1050238374

1. Municipal Check Number

1050238375

3. State Check Number

New England Power Company

5. Payor name on check: First Name

12/12/03

2. Check date

12/12/03

4. Check date

6. Payor name on check: Last Name



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by DEP:

DEP File Number

Document Transaction Number

West Boylston

City/Town

**G. Signatures and Submittal Requirements**

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

Signature of Applicant: F. Paul Richards, Principal Environmental Engineer

Date

12/20/03

Signature of Property Owner (if different)

Date

Signature of Representative (if any) Jeffrey A. Bridge, Mason & Associates, Inc.

Date

12/20/03

**For Conservation Commission:**

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents; two copies of pages 1 and 2 of Appendix B; and the city/town fee payment must be sent to the Conservation Commission by certified mail or hand delivery.

**For DEP:**

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents; one copy of pages 1 and 2 of Appendix B; and a copy of the state fee payment must be sent to the DEP Regional Office (see Instructions) by certified mail or hand delivery. (E-filers may submit these electronically.)

**Other:**

If the applicant has checked the "yes" box in any part of Section D, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

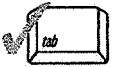
The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.





Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands  
**WPA Appendix A – Wetland Fee Transmittal Form**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**Important:**  
When filling out  
forms on the  
computer, use  
only the tab  
key to move  
your cursor -  
do not use the  
return key.



## A. Applicant Information

### 1. Applicant:

a. First Name \_\_\_\_\_ b. Last Name \_\_\_\_\_ New England Power Co.  
(Attn: F. Paul Richards)  
c. Company \_\_\_\_\_  
55 Bearfoot Road  
d. Mailing Address \_\_\_\_\_  
Northborough MA 01532  
e. City/Town \_\_\_\_\_ f. State \_\_\_\_\_ g. Zip Code \_\_\_\_\_  
508-421-7549  
h. Phone Number \_\_\_\_\_

### 2. Property Owner (if different):

a. First Name \_\_\_\_\_ b. Last Name \_\_\_\_\_ c. Company \_\_\_\_\_  
d. Mailing Address \_\_\_\_\_  
e. City/Town \_\_\_\_\_ f. State \_\_\_\_\_ g. Zip Code \_\_\_\_\_  
h. Phone Number \_\_\_\_\_

### 3. Project Location:

Temple Street West Boylston  
a. Street Address \_\_\_\_\_ b. City/Town \_\_\_\_\_

To calculate  
filing fees, refer  
to the category  
fee list and  
examples in  
Section D of  
this form.

## B. Fees

### Notice of Intent (Form 3) or Abbreviated Notice of Intent (Form 4):

The fee should be calculated using the following six-step process and worksheet. **Please see Instructions before filling out worksheet.**

**Step 1/Type of Activity:** Describe each type of activity that will occur in wetland resource area and buffer zone.

**Step 2/Number of Activities:** Identify the number of each type of activity.

**Step 3/Individual Activity Fee:** Identify each activity fee from the six project categories listed in the instructions.

**Step 4/Subtotal Activity Fee:** Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

**Step 5/Total Project Fee:** Determine the total project fee by adding the subtotal amounts from Step 4.

**Step 6/Fee Payments:** To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands  
**WPA Appendix A – Wetland Fee Transmittal Form**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**B. Fees** (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
2(j) other	1.5 (RA)	\$250	\$375

**Step 5/Total Project Fee:** \$375

**Step 6/Fee Payments:**

Total Project Fee: \$375  
a. Total fee from Step 5  
State share of filing fee: \$175  
b. 1/2 total fee less \$12.50  
City/Town share of filing fee: \$200  
c. 1/2 total fee plus \$12.50

**Abbreviated Notice of Resource Area Delineation (Form 4A):**

The fee is calculated as follows (check applicable project type):

- |   |                |            |                                    |
|---|----------------|------------|------------------------------------|
| 1. <input type="checkbox"/> single family house project | a. feet of BVW | x \$1.00 = | b. Total fee not to exceed \$1,000 |
| 2. <input type="checkbox"/> all other projects          | a. feet of BVW | x \$1.00 = | b. Total fee not to exceed \$1,000 |
| State share of filing fee:                              |                |            | 3. 1/2 of total fee less \$12.50   |
| City/Town share of filing fee:                          |                |            | 4. 1/2 of total fee plus \$12.50   |

**New England Power Company**

A National Grid Company

25 Research Drive, Westborough, MA 01582

Check No. 1050238374 Date 12/12/03

VOID IF NOT CASHED IN 120 DAYS

Two Hundred and NO/100 Dollars

Dollar Amount
*****\$200.00

FLEET (MAINE) N.A.  
South Portland, MESecurity features  
included:  
Details on back.PAY  
TO  
THE  
ORDER  
OFTOWN OF WEST BOYLSTON  
120 PRESCOTT STREET  
WEST BOYLSTON

MA 01583-1145



Authorized Signer

MP

**New England Power Company**

A National Grid Company

25 Research Drive, Westborough, MA 01582

Check No. 1050238375 Date 12/12/03

VOID IF NOT CASHED IN 120 DAYS

One Hundred Seventy-Five and NO/100 Dollars

Dollar Amount
*****\$175.00

FLEET (MAINE) N.A.  
South Portland, MESecurity features  
included:  
Details on back.PAY  
TO  
THE  
ORDER  
OF

COMMONWEALTH OF MASSACHUSETTS



Authorized Signer

MP

**New England Power Company**

A National Grid Company

25 Research Drive, Westborough, MA 01582

Check No. 1050238373 Date 12/12/03

VOID IF NOT CASHED IN 120 DAYS

Seventy-Five and NO/100 Dollars

Dollar Amount
*****\$75.00

FLEET (MAINE) N.A.  
South Portland, MESecurity features  
included:  
Details on back.PAY  
TO  
THE  
ORDER  
OFTOWN OF WEST BOYLSTON  
120 PRESCOTT STREET  
WEST BOYLSTON

MA 01583-1145



Authorized Signer

MP



# Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

## WPA Appendix B – Stormwater Management Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

### A. Property Information

**Important:**  
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



**Note:**

This August 2003 version of the Stormwater Management Form supersedes earlier versions including those contained in DEP's Stormwater Handbooks.

1. The proposed project is:

- a. New development ☐ Yes ☐ No  
b. Redevelopment ☒ Yes ☐ No  
c. Combination ☐ Yes ☐ No (If yes, distinguish redevelopment components from new development components on plans).

2. Stormwater runoff to be treated for water quality is based on the following calculations:

- a. ☒ 1 inch of runoff x total impervious area of post-development site for discharge to **critical areas** (Outstanding Resource Waters, recharge areas of public water supplies, shellfish growing areas, swimming beaches, cold water fisheries).  
b. ☐ 0.5 inches of runoff x total impervious area of post-development site for other resource areas.

### B. Stormwater Management Standards

DEP's Stormwater Management Policy (March 1997) includes nine standards that are listed on the following pages. Check the appropriate boxes for each standard and provide documentation and additional information when applicable.

#### Standard #1: Untreated stormwater

- a. ☒ The project is designed so that new stormwater point discharges do not discharge untreated stormwater into, or cause erosion to, wetlands and waters.

#### Standard #2: Post-development peak discharges rates

- a. ☐ Not applicable – project site contains waters subject to tidal action.

Post-development peak discharge does not exceed pre-development rates on the site at the point of discharge or downgradient property boundary for the 2-yr, 10-yr, and 100-yr, 24-hr storm.

- b. ☒ Without stormwater controls (2 and 10 year storm events)  
c. ☐ With stormwater controls designed for the 2-yr, and 10-yr storm, 24-hr storm.  
d. ☒ The project as designed will not increase off-site flooding impacts from the 100-yr, 24-hr storm. (Slight increase in peak flow for 100 year storm event, refer to "Stormwater Design Report – Wachusett No. 47 Substation Expansion" for details)



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

**WPA Appendix B – Stormwater Management Form**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**B. Stormwater Management Standards (cont.)**

**Standard #3: Recharge to groundwater**

Amount of impervious area (sq. ft.) to be infiltrated: 68,600  
a. square feet

Volume to be recharged is based on:

- b. ☒ The following Natural Resources Conservation Service hydrologic soils groups (e.g. A, B, C, D, or UA) or any combination of groups:

<u>100</u> 1. % of impervious area	<u>A</u> 2. Hydrologic soil group	<u>        </u> 3. % of impervious area	<u>        </u> 4. Hydrologic soil group
<u>        </u> 5. % of impervious area	<u>        </u> 6. Hydrologic soil group	<u>        </u> 7. % of impervious area	<u>        </u> 8. Hydrologic soil group

- c. ☒ Site specific pre-development conditions:
- |  |                                   |
|--|-----------------------------------|
| <u>0.4 inches/hour</u><br>1. Recharge rate | <u>0.053 ac. ft.</u><br>2. Volume |
|--|-----------------------------------|

- d. Describe how the calculations were determined:

Refer to Appendix B of "Stormwater Design Report – Wachusett No. 47 Substation Expansion"

- e. List each BMP or nonstructural measure used to meet Standard #3 (e.g. dry well, infiltration trench).

1. Infiltration chambers for direct infiltration of rooftop runoff.

2. Infiltration basin for recharge of entrance driveway pavement

3. Substation yard surfaced with crushed stone to promote infiltration of interior driveway

Does the annual groundwater recharge for the post-development site approximate the annual recharge from existing site conditions?

- f. ☒ Yes ☐ No

**Standard #4: 80% TSS Removal**

- a. ☒ The proposed stormwater management system will remove 80% of the post-development site's average annual Total Suspended Solids (TSS) load.

- b. Identify the BMP's proposed for the project and describe how the 80% TSS removal will be achieved.

Deep sump catch basins, infiltration basin and vegetated swales. Refer to "Stormwater

Design Report – Wachusett No. 47 Substation Expansion" for details



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

**WPA Appendix B – Stormwater Management Form**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**B. Stormwater Management Standards (cont.)**

c. If the project is redevelopment, explain how much TSS will be removed and briefly explain why 80% removal cannot be achieved.

---

---

---

**Standard #5: Higher potential pollutant loads**

Does the project site contain land uses with higher potential pollutant loads

a. ☐ Yes ☒ No      b. If yes, describe land uses:

---

c. Identify the BMPs selected to treat stormwater runoff. If infiltration measures are proposed, describe the pretreatment. (Note: If the area of higher potential pollutant loading is upgradient of a critical area, infiltration is not allowed.)

---

---

---

**Standard #6: Protection of critical areas**

Will the project discharge to or affect a critical area?

a. ☒ Yes ☐ No      b. If yes, describe areas:

Wachusett Reservoir, surface water supply watershed

c. Identify the BMPs selected for stormwater discharges in these areas and describe how BMPs meet restrictions listed on pages I-27 and I-28 of the Stormwater Policy Handbook – Vol. I:

Deep sump catch basins, infiltration basin and vegetated swales.

All BMP's are located outside Zone A and more 100 feet from bank of tributaries.

Refer to "Stormwater Design Report – Wachusett No. 47 Substation Expansion" for details

See Stormwater Policy Handbook Vol. I, page I-23, for land uses of high pollutant loading (see Instructions).

See Stormwater Policy Handbook Vol. I, page I-25, for critical areas (see Instructions).



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

**WPA Appendix B – Stormwater Management Form**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**B. Stormwater Management Standards (cont.)**

Note:  
components of  
redevelopment  
projects which  
plan to develop  
previously  
undeveloped  
areas do not fall  
under the scope  
of Standard 7.

**Standard #7: Redevelopment projects**

Is the proposed activity a redevelopment project?

a. ☒ Yes ☐ No

b. If yes, the following stormwater management standards have been met:

All

c. The following stormwater standards have not been met for the following reasons:

---

---

---

d. ☒ The proposed project will reduce the annual pollutant load on the site with new or improved stormwater control.

**Existing driveway will be improved with stormwater collection, treatment and infiltration**

**Standard #8: Erosion/sediment control**

a. ☒ Erosion and sediment controls are incorporated into the project design to prevent erosion, control sediments, and stabilize exposed soils during construction or land disturbance.

**Refer to "Stormwater Pollution Prevention Plan – Wachusett No. 47 Substation Expansion"**

**Standard #9: Operation/maintenance plan**

a. ☒ An operation and maintenance plan for the post-development stormwater controls have been developed. The plan includes ownership of the stormwater BMPs, parties responsible for operation and maintenance, schedule for inspection and maintenance, routine and long-term maintenance responsibilities, and provision for appropriate access and maintenance easements extending from a public right-of-way to the stormwater controls.

**"Stormwater Design Report-Wachusett No. 47 Substation Expansion"**

b. Plan/Title

12/20/03

c. Date

d. Plan/Title

e. Date



**Massachusetts Department of Environmental Protection**

Bureau of Resource Protection - Wetlands

**WPA Appendix B – Stormwater Management Form**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**C. Submittal Requirements**

**Online Users:**  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

DEP recommends that applicants submit this form, as well as, supporting documentation and plans, with the Notice of Intent to provide stormwater management information for Commission review consistent with the wetland regulations (310 CMR 10.05 (6)(b)) and DEP's Stormwater Management Policy (March 1997). If a particular stormwater management standard cannot be met, information should be provided to demonstrate how equivalent water quality and water quantity protection will be provided. DEP encourages engineers to use this form to certify that the project meets the stormwater management standards as well as acceptable engineering standards. For more information, consult the Stormwater Management Policy.

**D. Signatures**

**New England Power Company**

Applicant Name

12/20/03  
Date

*Paul Richards*  
Signature

**National Grid USA Service Company (Agent)**

Representative (if any)

Date

**Daniel McIntyre, P.E.**

Signature

*Daniel McIntyre*

12/20/03





## *Section 2*

---

Project Narrative

## **1.0 Introduction**

During the last several years, demand for electricity in central Massachusetts has increased substantially, primarily due to commercial and industrial growth in a number of communities. A study of the electricity transmission in central Massachusetts was conducted by New England Power, a National Grid subsidiary, to determine the best way to keep pace with the electrical needs of the area. This study concluded that an upgrade, tapping the 345-kilovolt lines, of the Wachusett Substation No. 47 at 53 Temple Street is required in order to provide reliable service, have adequate electricity capacity and to meet the area's future electrical needs.

The Wachusett Substation began serving central Massachusetts customers in the early 1970s. It is connected to a 115-kilovolt transmission system and 69-kilovolt lines that feed local substations. Its primary job is to convert power to a voltage usable by the smaller, local substations that ultimately supply customers in West Boylston, Holden and the greater Worcester area. The Wachusett Substation currently houses one transformer.

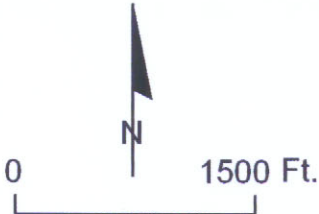
## **2.0 Existing Conditions**

The 14± acre project site, Wachusett Substation No. 47, is located off Temple Street (Route 140) in West Boylston (Refer to Figures 1 and 2). A 900±-foot linear paved driveway provides access from Temple Street to the substation. The site is generally bound by the railroad to the west, Temple Street to the south and woodlands and the Wachusett Reservoir to the north and east. Temple Street Substation is located directly across the street from the access drive to Wachusett Substation. The project site is located adjacent to a licensed right-of-way for electric utilities granted by the Department of Conservation and Recreation, Division of Watershed Protection (formerly known as the Metropolitan District Commission).

The fenced-in substation consists of 1 transformer and two rows of overhead power lines. Most of the site is a corridor for four high voltage lines. Except for a 280' x 16' section of the paved drive and a control house, the site is pervious, consisting of a crushed stone surface treatment. In this area rainfall primarily infiltrates through the crushed stone. There are no formal stormwater management features currently in place. Stormwater runoff from the paved access road sheet flows to the surrounding upland and wetland areas. The upland area immediately surrounding the substation consists of a previously graded and disturbed area supporting an assortment of grasses (i.e., switch grass) and sparse scrub/shrub vegetation typical of early successional fields. This community is actively maintained as right-of-way by New England Power Company.

Gates Brook, an unnamed intermittent stream, and associated Bordering Vegetated Wetlands (BVWs) are the main hydrologic features on or in close proximity to the project site. These hydrologic features are contiguous and tributary to the Wachusett Reservoir, a public water supply, and are therefore similarly designated as Outstanding Resource Waters (ORWs).





Source: USGS Topographic Quadrangle, Worcester North, MA - From MassGIS

## PROJECT LOCATION

Project No. 030412

Figure 1





Approximate Scale

- Approximate Location of Property Boundaries
- Approximate Location of Proposed Expanded Substation

Source: MassGIS 1:5000 Color Orthophotographs, December 2002

**Wachusett Substation**  
**Temple Street, West Boylston, MA**

**MA** **MASON & ASSOCIATES, INC.**  
*Environmental Consulting & Projects*  
 219 East Main Street, Milford, Massachusetts 01757

**AERIAL PHOTOGRAPH**

Project No. 030412

Figure 2



Based on the soil survey for the town of West Boylston, the majority of the site consists of Hinckley sandy loam, an excessively drained soil, while the southeast portion of the site consists of moderately well-drained Sudbury fine sandy loam. There are no hydric soils mapped on the project site.

### **Resource Areas**

During May, August, and October of 2003, Mason & Associates, Inc. delineated the boundary of two BVWs using blue polyethylene flagging (W100-W166, W200-W213, W600-W611, W700-W729, and W800-W824) and the Bank to a perennial waterway (Gates Brook) and an unnamed intermittent stream. The 200-series BVW is located off site and is associated with Gates Brook while the remaining BVW flags are on site and are associated with the intermittent stream. Mapped as intermittent (Worcester North Quadrangle Map), this unnamed stream, having a 0.04 square mile watershed (Stream Stat), is located southeast of the existing substation and flows northeasterly to the Wachusett Reservoir. A portion of this on-site stream flows through a culvert beneath the access drive. Gates brook is mapped as perennial on the Worcester North Quadrangle Map and is located off site to the west and northwest of the substation. Three non-jurisdictional isolated wetlands are located on or in close proximity to the project site. These wetlands, which do not meet the volumetric criteria to be considered Isolated Land Subject to Flooding, are subject to federal jurisdiction only and are simply shown for informational purposes.

### **Bank (310 CMR 10.54)**

A Bank is associated with the on-site intermittent stream and off-site perennial waterway (Gates Brook). The first observable break in slope and other bankfull indicators were used to delineate the Bank. The Bank located beneath the entrance driveway is the only section of the on-site intermittent stream composed of man-made material (i.e., corrugated metal pipe).

### **Bordering Vegetated Wetlands (310 CMR 10.55)**

Two hydrologically-connected Bordering Vegetated Wetlands (BVWs) are associated with the on-site intermittent stream. The wetlands are generally characterized as a scrub/shrub wetland. Representative vegetation within the on-site scrub/shrub wetlands include speckled alder (*Alnus rugosa*), silky dogwood (*Cornus amomum*), steeple bush (*Spirea tomentosa*), wrinkled goldenrod (*Solidago rugosa*), and sensitive fern (*Onoclea sensibilis*). A deciduous forested wetland (W100-W140) dominates the area adjacent to the hillside, except for an area located beneath the power line (W115-W132) which is characterized as a scrub/shrub wetland. Vegetation within the forested wetland is dominated by red maple (*Acer rubrum*).

### **Riverfront Area (310 CMR 10.58)**

A 200-foot Riverfront Area is associated with Gates Brook, a mapped perennial waterway. Only a small portion of this Riverfront Area extends onto the subject property (18,245± sf). The majority of this area (9,500± sf) is characterized as previously developed and includes a fence, crushed stone surface, and transformer (Refer to Figure 3 and Table 1). The remaining area (8,745± sf) is characterized as previously disturbed, consisting of an open field (Refer to Figure 3). Beyond the previously developed and disturbed on-site Riverfront Area to the west are the off-site railroad tracks and embankment. These features act as a physical barrier



Existing Substation

View Facing East from Railroad Embankment of the Expansion Area.



View Facing East of the Expansion Area and Existing Substation

Wachusett Substation  
Temple Street, West Boylston, MA

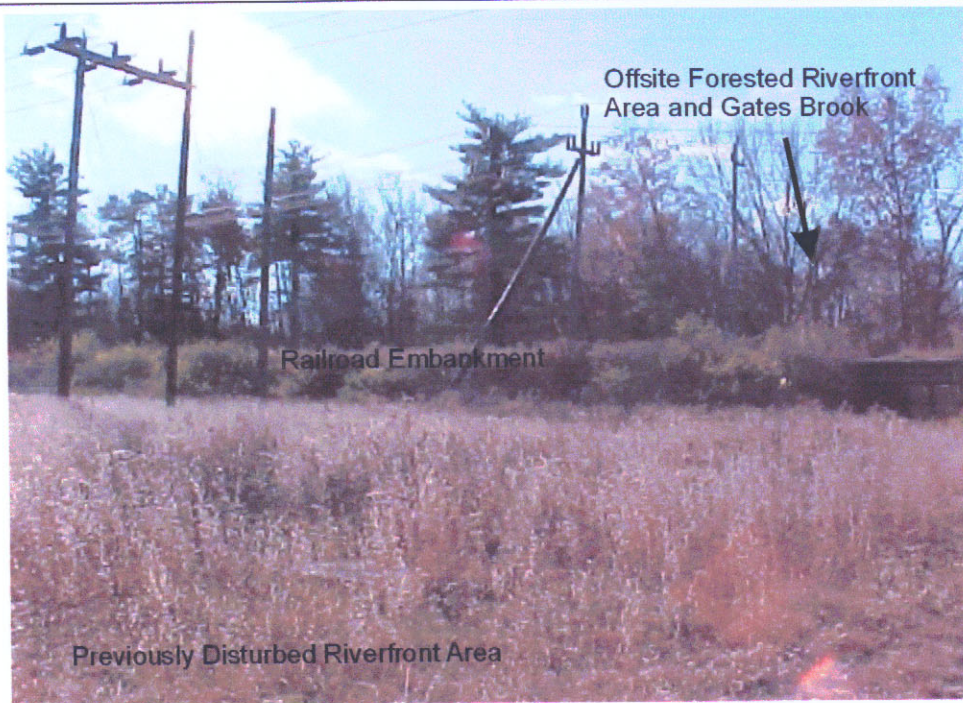
**MA** **MASON & ASSOCIATES, INC.**  
*Environmental Consulting & Projects*  
219 East Main Street, Milford, Massachusetts, 01757

## SITE PHOTOGRAPHS

Project No. 030412

Figure 3





View Facing Southwest of the Expansion Area and the Elevated Railroad Embankment  
November 2003



View Facing West of the Expansion Area and Previously Disturbed Riverfront Area  
November 2003

Wachusett Substation  
Temple Street, West Boylston, MA

**MA** **MASON & ASSOCIATES, INC.**  
*Environmental Consulting & Projects*  
219 East Main Street, Milford, Massachusetts, 01757

## SITE PHOTOGRAPHS

Project No. 030412

Figure 3, cont.

between the subject property and Gates Brook, at its closest point. An additional section of Riverfront Area extends slightly on site as Gates Brook flows beneath the railroad embankment, north of the project site.

**Bordering Land Subject to Flooding (310 CMR 10.57)**

Bordering Land Subject to Flooding (BLSF) is associated with the off-site Gates Brook. This off-site 100-year floodplain (Town of West Boylston Flood Insurance Rate Map Panel #250345 0005C) is topographically confined, approximately 24 feet lower in elevation and more than 300 feet from than the existing substation.

**Buffer Zone**

The on-site state jurisdictional buffer zones extend 100 feet from the on-site and off-site wetland resource areas; i.e., Bordering Vegetated Wetlands and Bank. The 100-foot discretionary buffer zone is not itself considered a resource area. The on-site buffer zone consists of the majority of the access drive (11,900 sf of pavement), scrub/shrub upland areas (133,390 sf of previously disturbed areas under the power lines) and the southeast corner of the existing substation (3,840 sf). Refer to Table 1.

Beyond the on-site Bordering Vegetated Wetland, Bank, and Riverfront Area, there are no other state regulated on-site resource areas including Land Under Water or Land Subject to Flooding.



### **3.0 Proposed Conditions**

The proposed project includes the expansion of the existing substation. In order to accommodate the expansion as described below, the substation area will be increased by approximately three acres. Two new prefabricated buildings (the 345 kV building at 10,800± sf and the 115 kV and control building combined at 12,200± sf) are proposed that will house new circuit breakers and other associated electrical equipment. The expanded substation will be fenced-in and an interior perimeter paved road will be constructed. The interior paved road is needed to accommodate installation of a tractor-trailer bed mounted mobile transformer if needed in an emergency. The proposed substation yard will be surfaced with a 6-inch thick layer of ¾ inch crushed stone. One existing transformer will remain and an additional seven transformers will be installed. An impervious concrete containment system for each transformer will be installed to address the potential release of cooling fluid (mineral oil) circulating within the transformers. Each containment system has the capacity to store 125% of the potential release.

#### **Transmission Lines and Transmission Line Structures**

In order to redirect the 345 kV and 115 kV supply lines into the expanded substation from the existing transmission lines, reconfiguration of the transmission line structures is required. Several existing structures will be replaced or relocated. Four existing 115 kV transmission line structures will be removed and replaced with 3 structures in the same general location. Two existing 345 kV transmission line structures will be replaced with two structures in the same general location. Two new 345 kV transmission line structures will be installed in the 100-foot buffer zone. Finally, 2 existing 69 kV transmission poles will be relocated and one 69 kV line to the south will be removed. All the 115 and 345 kV line structures will be steel with concrete foundations whereas the 69 kV structures will be guyed wood poles. Installation of the structures located outside the proposed fence will be isolated with staked hay bales. If conditions warrant, swamp mats will be used to limit disturbance to the ground. Following installation, any disturbed area will be re-vegetated (e.g., seeded and mulched).

#### **Utility Installation and Driveway Improvements**

A sewer and water line will also be installed beneath the existing entrance driveway in order to support a new small sanitary facility at the site. These utility lines will connect to the existing lines located within Temple Street. In addition, drainage structures (i.e., deep sump catch basins and infiltration basin) will be installed to treat and infiltrate stormwater. Following installation of the sanitary lines and drainage structures the driveway will be repaved to include curbing. No change to the dimensions of the existing entrance driveway will occur and the existing culvert for the intermittent stream will remain in place.

An off-site temporary wood chipping area will be located northwest of the project site, on property owned by the Department of Conservation and Recreation, Division of Watershed Protection. Partially located in the previously disturbed Riverfront Area, the wood chipping area will be contained by an erosion control barrier on the downgradient side towards Gates Brook.

To avoid wetland impacts, a retaining wall will be constructed on the south side of the site adjacent to the 100-series wetland. This retaining wall will consist of a soil reinforced wall with pre-cast masonry facing. Consistent with the Conservation Commission's preference, this retaining wall does not include poured concrete.

Contingent upon approvals, the proposed work is expected to begin in the summer of 2004 and will take approximately 24 months to complete. The substation expansion will undergo a phased construction schedule in order to continue to supply electricity to local substations. Two transmission line structures will be installed to temporarily locate the 115kV transmission lines over the existing yard during construction.

Unrelated to the Wachusett Substation expansion, the existing Temple Street Substation will be dismantled; however, the existing perimeter fence and concrete slab will remain in place. This element of work will be coordinated with the Conservation Commission at a later date and is not currently subject to this Notice of Intent.

The majority of this work is located in non-jurisdictional upland areas; however, approximately 1.3-acres of the proposed work are located within the discretionary 100-foot buffer zone, BVW and Riverfront Area. As noted, more than 80% of the proposed work within jurisdictional wetland areas is characterized as previously developed/disturbed areas. Erosion controls, including double barriers upgradient of the 100-series wetland, are proposed to minimize construction-related impacts and to protect adjacent wetlands during construction activities.

#### **Drainage**

To mitigate overall project-related stormwater runoff, the stormwater management plan has been designed in accordance with the DEP Stormwater Management Policy. The following is a summary of the stormwater management plan. Refer to the enclosed "Stormwater Design Report – Wachusett No. 47 Substation Expansion" dated December 20, 2003 for a detailed description of the plan and how it complies with the Stormwater Management Policy.

Since the site is tributary to an Outstanding Resource Water (the Wachusett Reservoir, a public drinking water supply), the first inch of runoff must be treated. Runoff generated from the driveway will be treated by deep sump catch basins and an infiltration basin. Any overflow from the infiltration basin will be conveyed through a rip rap apron and vegetated swale. Rooftop runoff from the two buildings will be conveyed to infiltration chambers designed to infiltrate the first inch of rainfall. Overflow from the chambers will be directed to the vegetated swale located along the perimeter of the substation yard. This vegetated swale also functions to intercept runoff generated from the adjacent hillside in order to prevent runoff from entering the site. Rainfall falling on the crushed stone will infiltrate directly and no stormwater Best Management Practices are required or proposed.

## **4.0 Project Impacts and Regulatory Compliance**

The proposed project has been designed to avoid impacts to resource areas and to minimize alterations to the buffer zone. When impacts to resource areas could not be avoided, these impacts were minimized to the extent practicable. The following describes the specific work proposed within the 100-foot Buffer Zone, Riverfront Area and Bordering Vegetated Wetland. It is important to note that the majority of the substation expansion area (not including the work associated with the access drive) is located in a non-jurisdictional area, i.e., beyond the 100-foot buffer zone, Riverfront Area and BVWs. Table 1 provides a summary of work proposed within the 100-foot Buffer Zone, Riverfront Area, BVW and Federal-regulated Isolated Wetland.

### **100-Foot Buffer Zone**

Work proposed within the 100-foot buffer zone to the 100-series wetland is associated with a small section of the substation expansion area. This work includes earthwork (i.e., clearing, grading, filling and crushed stone surface treatment), fencing installation, stormwater management (vegetated swale), retaining wall, bituminous concrete pavement (for the perimeter drive), two new structures and overhead wires and erosion controls. Work within the buffer zone to the 600, 700 and 800-series wetlands includes the installation of water and sewer lines within the existing access road, connection of these utilities within Temple Street, driveway improvements, a stormwater infiltration basin and erosion controls. Of approximately 5 acres of work proposed overall, slightly more than one acre (49,420± sf) of work is proposed within the buffer zone. In addition, more than 80% of the work within the buffer zone is located on previously disturbed land (a portion of which is previously developed; i.e., the existing access road). Refer to Table 1 for the breakdown of activities within the buffer zone.

### **Riverfront Area**

Work proposed within the 200-foot Riverfront Area is associated with the western portion of the substation expansion area. New work includes a new transformer with containment, fencing, filling, grading and placement of a crushed stone surface. In addition, two existing structures will be replaced and relocated in close proximity to their original locations. These activities result in the alteration of approximately 4,640 sf of previously disturbed Riverfront Area (within the 100'-200' zone). Finally, two existing structures located north of the substation within the 100'-200' Riverfront Area will be replaced with one structure resulting in approximately 360 sf of work. In addition, a temporary chipping area will be located, in part, within the Riverfront Area. As noted above, the off site railroad and embankment acts as a physical barrier between the substation and Gates Brook. The overall alteration of the Riverfront Area approximates 5,000 sf and is in compliance with 310 CMR 10.58(4)(c)(3)(d)(1).

### **Bordering Vegetated Wetland**

So as not to impede with the operation of the overhead wires (30-foot clearance zone is required), selective tree cutting within the 100-series wetland is necessary. Trees to be removed include 5 red maple (4 mature and 1 pole size) and 1 elm (pole size), plus a number of smaller (15'-20') red maple saplings, resulting in the alteration of approximately 1,370± sf of

wetland area. The mature trees to be removed have been flagged (pink). To minimize wetland alteration, the trees will be cut to the ground and the stumps will be left in place. The trees will be removed and chipped. It is anticipated that the cleared area will convert to a shrub community similar to the existing adjacent right-of-way wetland. The estimate of alteration is conservative since it includes the area between the trees that will not be altered. Swamp mats will be used, as necessary, to provide safe access to the trees without disturbing the ground surface. No loss of wetland will occur and therefore no replication is proposed. The proposed overhead wires will also go over another section of the 100-series wetland, yet this area consists of shrubs and other low vegetation and therefore no removal of vegetation is necessary.

Project compliance with the DEP Stormwater Management Policy presumes protection of public and private water supply and existing groundwater supply. According to the Flood Insurance Rate Map for the town of West Boylston, the proposed project is not located within the 100-year floodplain. Further, the stormwater management analysis has determined that flows from the 100-year storm are insignificant such that the flood control and storm damage prevention interests of the Act are upheld. Contamination of water resources will be prevented and groundwater quality protected as a result of the erosion control measures used during construction, transformer spill containment system, and stormwater management BMPs. Finally, the project site is not located within an area designated as a rare or endangered species habitat nor to include any certified or potential vernal pools.

**Table 1. RESOURCE AREA CALCULATIONS**

**Existing Conditions**

	Riverfront Area (sf)		Buffer Zone	BVW	Isolated Fed.
	0-100'	100'-200'	(sf)	(sf)	Wetland (sf)
Previously Developed					
Exist. Sub	--	9,500	3,840	--	--
Exist. Pavement	--	--	11,900	--	--
Previously Disturbed	--	8,745	133,390	74,245	5,965
Subtotal:		18,245	149,130	74,245	5,965
Total On-Site	0.0	18,245	225,005	90,000	5,965

**Proposed Resource Area Alterations**

	Bank (lf)	BVW (sf)	LUW (sf)	BLSF (sf)	RA <sup>1</sup> (sf)	Buffer Zone (sf)	Isolated Fed. Wetland (sf)
Expand. Sub <sup>2</sup>	--	--	--	--	4,640	24,290	1,735
New Pavement	--	--	--	--	--	5,880	--
New Utilities/ Repavement	--	--	--	--	--	11,900	--
New/Replace Structures	--	--	--	--	360	2,500	--
New Overhead Trans. Lines	--	1,370	--	--	--	--	--
Stormwater Facilities	--	--	--	--	--	4,850	--
Total:	0.0	1,370	0.0	0.0	5,000	49,420	1,735

1 Proposed alterations restricted to 100' - 200' Riverfront Area.

2 Includes clearing, grading, retaining wall and crushed stone surface treatment (bituminous concrete excluded).

Notes:

- BVW alteration: 1,370 sf (100%) undisturbed wetland;
- RA alteration: 5,000 sf (100%) previous disturbed 100-200' Riverfront Area;
- Buffer Zone alteration: 40,270 sf (81%) previous disturbed and 9,150 sf (19%) undisturbed 100' Buffer Zone;
- Federal Wetland: 1,735 sf (100%) previous disturbed isolated wetland.

## 5.0 Mitigating Measures

The project was designed to avoid wetland impacts to the extent practicable. When alteration of a wetland was deemed necessary, impacts were kept to a minimum and no loss of wetland was achieved. For example, the project was sited to avoid work within wetlands and to minimize activity within the 100-foot buffer zone. Of the approximately 5 acres of work proposed on the project site, slightly more than 1 acre will take place within the buffer zone; of which, approximately ½ acre is previously disturbed and ¼ of an acre is previously developed (i.e., paved entrance driveway). To avoid impact to the 100-series wetland a retaining wall is proposed. Wetland impacts were minimized in the establishment of a 30-foot clearance zone adjacent to the overhead wires. In addition, wetland trees to be removed were kept to a minimum through careful selection and the overall disturbance to the wetland was minimized through specific construction practices (e.g., swamp mats and tree stumps to remain). Further, the character of the forested portion of the wetland was maintained since the tree cutting was limited to the forested edge and did not bisect the wooded wetland. The selective tree removal, although considered an alteration to the wetland, results in no net loss of wetland area.

DEP's Stormwater Management Policy provides stormwater management guidelines for new development and redevelopment projects that are subject to the provisions of the Wetlands Protection Act. Through the implementation of nine performance standards, stormwater management designed for post-development conditions aim to minimize impacts from development through use of Best Management Practices (BMPs). As stated, the project has been designed to comply with the provisions of the Stormwater Management Policy.

A Stormwater Pollution Prevention Plan (SWPPP) has been prepared to minimize impacts during construction of the expanded substation. The enclosed SWPPP describes the phases of construction and the erosion control measures to be implemented during each phase. The construction phases and erosion control measures are summarized in Table 2, Erosion Control BMPs. In accordance with the Conservation Commission's request during an advanced coordination meeting, a double reinforced erosion control barrier (hay bale and silt fence) will be installed in the vicinity of WF 108 to WF 125, adjacent to the proposed retaining wall and area of tree clearing. As required, a primary erosion control barrier will be installed upgradient of the wetland boundary whereas a secondary erosion control barrier will be installed 15 feet further upslope.

## 6.0 Summary

In summary, the proposed, public benefit, project has been designed in an effort to minimize and avoid direct and indirect adverse construction-related and long-term operational impacts to the regulated wetland resource areas. These measures include the following:

- compliance with the DEP Stormwater Management Policy;
- minimizing work within the 100-foot buffer zone, Riverfront Area and Bordering Vegetated Wetland; and
- implementation of a Stormwater Pollution Prevention Plan and erosion control plan to minimize construction-related impacts and to protect adjacent wetlands.

TABLE 2  
WACHUSETT SUBSTATION  
EROSION CONTROL BMP'S

PHASE	MAJOR TASKS	APPROX.	
		DURATION	EROSIONS CONTROL BMP'S
IA	1 Brush hog area for sediment barriers	2 Weeks	Install haybales to prevent travel thru wetlands Use swamp mats as required Install haybales at chipping location
	2 Tree Clearing		
	3 Chip trees and remove		
IB	1 Grade portion of yard to rough grade elevation	2 Months	Install haybales & build lower sediment trap Stabilize slopes and swales with erosion control mat Install check dams in swales Mulch temporary slopes leading to sediment trap
	2 Permanently Stabilize Slopes on East side		
	3 Install permanent fencing on west side of yard		
IC	1 Install foundations for 345 kV "A"-Frame	4 Months	Monitor haybales Clean sediment traps and check dams as required Construct concrete waste sump Water for dust control as required Sweep driveway as required Construct de-watering sumps as required Use swamp mats at transmission structures as required and install haybales around structure locations
	2 Install foundations for 345 kV GIS building		
	3 Install 345 kV "A"-Frame structure		
	4 Install 345 kV GIS building		
	5 Install foundations for permanent 345 Kv transmission structures		
	6 Install permanent 345 kV transmission structures relocate lines 314 and 343		
	7 Remove existing 345 kV transmission structures no. 119, 119A, 203 and 204		
ID	1 Install temporary 115 Kv foundations and structures Relocate line O141 and P142	1 Month	Install haybales around structure locations as required Use concrete waste sump
	2 Install foundations for 345 kV GIS building		
	3 Install 345 kV GIS building and control house		
IIA	1 Build retaining wall	2 Months	Monitor haybales and check dams Re-install check dams in swales as required Install riprap aprons at swale and culvert outlets
	2 Complete grading in middle of main yard to rough grade elevation		
	3 Extend south portion of existing yard		
	4 Permanently stabilize slopes, swales, drainage		
	5 Complete permanent fencing around yards		



TABLE 2  
WACHUSETT SUBSTATION  
EROSION CONTROL BMP'S

PHASE	MAJOR TASKS	APPROX.	
		DURATION	EROSIONS CONTROL BMP'S
IIB	1 Complete all remaining construction in substation	12 Months	Monitor haybales and check dams
			Re-install check dams in swales as required
			Use concrete waste sump
			Water for dust control as required
			Sweep driveway as required
IIC	1 Construct stormwater basin and install water, sewer and drainage along driveway 2 Stone yard and pave driveway	1 Month	Install haybales around basin construction
			Monitor haybales and check dams
			Install catch basin grate traps as required
			Rip-Rap basin inlet and outlet
			Revegetate all disturbed areas outside fence
			Properly dispose of concrete waste sump



### *Section 3*

Abutter Information

**AFFIDAVIT OF SERVICE**  
**Under the Massachusetts Wetlands Protection Act**

I, Jeffrey A. Bridge, hereby certify under pains and penalties of perjury that on December 30, 2003 I gave notification to abutters within 100 feet of the proposed project in compliance with the Massachusetts Wetlands Protection Act (Massachusetts General Laws Chapter 131, Section 40) and the DEP Guide to Abutter Notification dated April 8, 1994 in connection with the following matter:

A Notice of Intent (permit application) filed under the MA Wetlands Protection Act by New England Power Company with the West Boylston Conservation Commission on December 30, 2003 for property located at 53 Temple Street (Wachusett Substation No. 47) (Maps 149/152, Lots 43/44) West Boylston, MA.

The form of the notification and a certified list of the abutters to whom it was given, with their addresses, are attached to this Affidavit of Service.

Jeffrey A. Bridge  
Name: Jeffrey A. Bridge

December 30, 2003  
Date:

NOTIFICATION TO ABUTTERS UNDER THE  
MASSACHUSETTS WETLANDS PROTECTION ACT

In accordance with the Massachusetts General Laws Chapter 131 Section 40, you are hereby notified of the following:

- A. The name of the applicant is **New England Power Company**
- B. The applicant has filed one of the following with the Town of West Boylston Conservation Commission (check one):
  - ☒ **X** A Notice of Intent (Application) seeking permission to remove, fill, dredge, or alter an area subject to protection under the Wetlands Protection Act.
  - ☐ A Request for Determination of Applicability to know whether or not a proposed activity or an area is subject to the Wetlands Protection Act.
  - ☐ An Abbreviated Notice of Resource Delineation seeking review and approval of wetland delineation.
- C. The address or location of the lot where the activity is proposed or planned is **Wachusett Substation No. 47, 53 Temple Street (Maps 149/152, Lots 43/44) West Boylston, MA.**
- D. Copies of the Notice of Intent, the Request for Determination of Applicability, or the Abbreviated Notice of Resource Area Delineation may be examined at the **Town Clerk's Office, Mixter Building, 120 Prescott Street.** The office is open Monday, Tuesday, Thursday and Friday between the hours of 9:00am and 3:30 pm and on Wednesday between the hours of 8:00am and 1:00pm and 5:00pm and 9:00pm. For more information call the Conservation Commission Office at (508) 835-6240.
- E. Copies of the Notice of Intent, the Request for Determination of Applicability, or the Abbreviated Notice of Resource Area Delineation may be obtained from the Applicant's Representative by calling this telephone number: (508) 422-9495 between the hours of 8:30 a.m. and 4:30 p.m. on the following days of the week: Monday through Friday.
- F. Information regarding the date, time, and place of the public hearing may be obtained from the Worcester Telegram and Gazette at least five days before the Hearing. You may also call the Conservation Commission Office at (508) 835-6240 between the hours 9:00am and 3:30 pm on Monday, Tuesday, Thursday and Friday and on Wednesday between the hours of 8:00am and 1:00pm and 5:00pm and 9:00pm.

Note: For more information about this application or the Wetlands Protection Act you may also contact the Central Regional Office of the Department of Environmental Protection at (508) 792-7650.

Town of West Boylston  
Office of the Board of Assessors

Helen Mixer Municipal Building  
120 Prescott Street West Boylston, MA. 01583

12/16/2003

The following is a Certified List of Abutters for that property identified as Assessors' Map 152 Parcel 43 located at Temple Street. Listed abutters are within 100 feet of the subject Property(s).

Legal Owner : New England Power Co, 25 Research Drive, Westborough, MA 01582

<u>Parcel ID/Location/Legal Reference</u>	<u>Abutter and Mailing Address</u>
Map/Parcel 152/29 0 WORCESTER STREET REAR	METROPOLITAN DISTRICT COMM C/O REAL PROPERTY OFFICE 20 SOMERSET STREET BOSTON MA 02108
Map/Parcel 152/38 19 TEMPLE STREET 27624/ 329	DOOLEY CHRISTINE R  19 TEMPLE STREET WEST BOYLSTON MA 01583
Map/Parcel 152/42 33 TEMPLE STREET 21911/ 107	HAMMOND JAMES O JR  33 TEMPLE STREET WEST BOYLSTON MA 01583
Map/Parcel 152/44 0 TEMPLE STREET REAR	NEW ENGLAND POWER SERVICE CO C/O PROPERTY TAX DEPT 25 RESEARCH DRIVE WESTBORO MA 01582
Map/Parcel 152/45 0 TEMPLE STREET REAR 14321/ 393	METROPOLITAN DISTRICT COMM  20 SOMERSET ST BOSTON MA 02108
Map/Parcel 152/46 63 TEMPLE STREET 4591/ 415	VOKES NORMAN A VOKES CAROL A 63 TEMPLE STREET WEST BOYLSTON MA 01583
Map/Parcel 152/60 0 TEMPLE STREET	NEW ENGLAND POWER CO C/O PROPERTY TAX DEPT 25 RESEARCH DRIVE WESTBORO MA 01582

Parcel ID/Location/Legal Reference

Abutter and Mailing Address

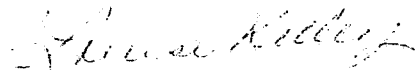
Map/Parcel 152/62  
42 TEMPLE STREET  
19877/285

TAMBOLLEO JOSEPH  
TAMBOLLEO JOY  
42 TEMPLE STREET  
WEST BOYLSTON MA 01583

Map/Parcel 160/16  
0 TEMPLE STREET

METROPOLITAN DISTRICT COMM  
C/O REAL PROPERTY OFFICE  
20 SOMERSET STREET  
BOSTON MA 02108

Respectfully Submitted,



Louise Kelley, Administrative Assessor

For the West Boylston Board of Assessors



160-16

152-45

152-44

152-43

152-29

152-38

Temple Street

152-42

152-46

152-60

152-62



## *Section 4*

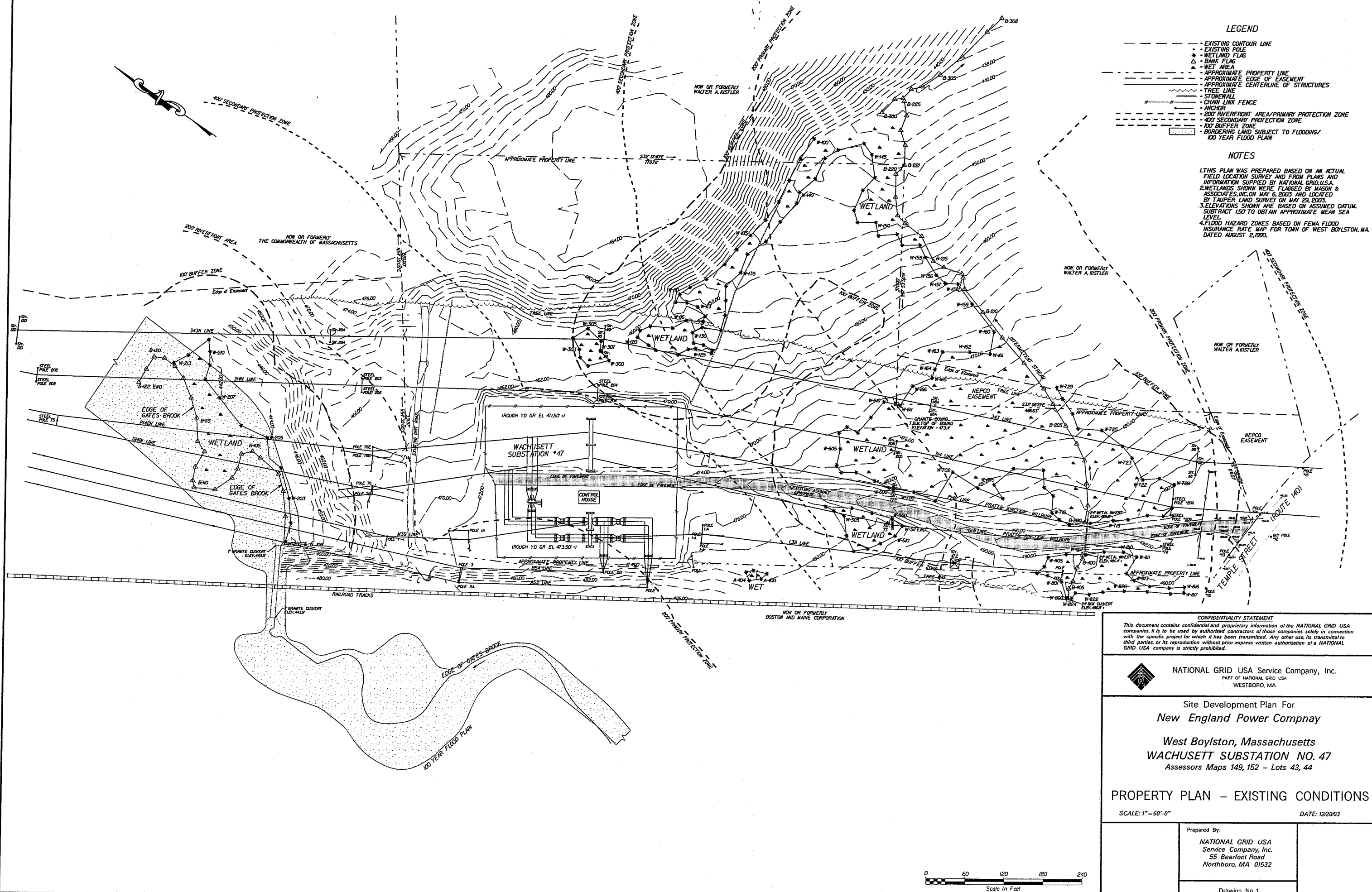
---

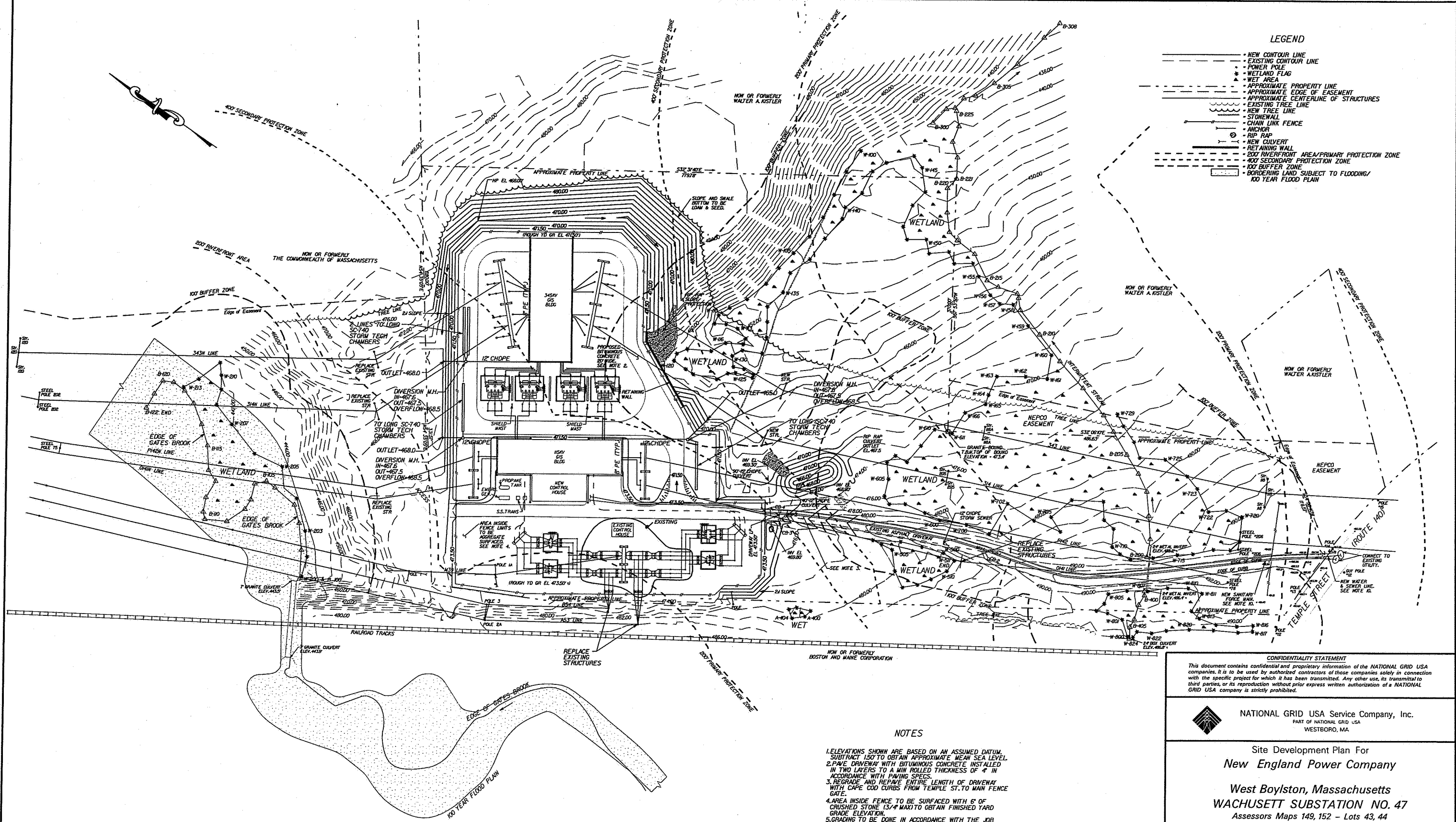
### Site Plans

Site Plans, prepared by National Grid  
USA Service Company, 3 sheets, dated  
December 20, 2003:

- Property Plan - Existing Conditions
- Proposed Site Plan
- Construction Details



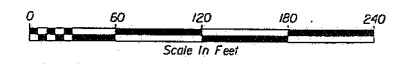




- LEGEND**
- NEW CONTOUR LINE
  - EXISTING CONTOUR LINE
  - POWER POLE
  - WETLAND FLAG
  - WET AREA
  - APPROXIMATE PROPERTY LINE
  - APPROXIMATE EDGE OF EASEMENT
  - APPROXIMATE CENTERLINE OF STRUCTURES
  - EXISTING TREE LINE
  - NEW TREE LINE
  - STONE WALL
  - CHAIN LINK FENCE
  - ANCHOR
  - RIP RAP
  - NEW CULVERT
  - RETAINING WALL
  - 200' RIVERFRONT AREA/PRIMARY PROTECTION ZONE
  - 400' SECONDARY PROTECTION ZONE
  - 100' BUFFER ZONE
  - BORDERING LAND SUBJECT TO FLOODING/100 YEAR FLOOD PLAIN

**NOTES**

- ELEVATIONS SHOWN ARE BASED ON AN ASSUMED DATUM. SUBTRACT 150 TO OBTAIN APPROXIMATE MEAN SEA LEVEL.
- PAVE DRIVEWAY WITH BITUMINOUS CONCRETE INSTALLED IN TWO LAYERS TO A MIN ROLLED THICKNESS OF 4" IN ACCORDANCE WITH PAVING SPECS.
- REGRADE AND REPAIR ENTIRE LENGTH OF DRIVEWAY WITH CAPE COD CURBS FROM TEMPLE ST. TO MAIN FENCE GATE.
- AREA INSIDE FENCE TO BE SURFACED WITH 6" OF CRUSHED STONE (1 1/2" MAX) TO OBTAIN FINISHED YARD GRADE ELEVATION.
- GRADING TO BE DONE IN ACCORDANCE WITH THE JOB SPECIFICATION FOR CLEARING, GRADING & DRAINAGE.
- ALL FENCING TO BE IN ACCORDANCE WITH THE JOB SPECIFICATION. FENCE TO BE 7'-0" HIGH CHAIN LINK FABRIC, TOPPED BY 3 STRANDS OF BARBED WIRE ON EXTENSION BRACKETS SLOPING OUTWARD.
- NO TREES TO BE REMOVED OUTSIDE OF THE WORK AREA WITHOUT PERMISSION OF THE ENGINEER.
- DIGSAFE TO BE NOTIFIED AT 888-344-7233 PRIOR TO ANY EXCAVATION OR EARTH MOVING.
- SEE CONSTRUCTION DETAILS FOR MANHOLE AND CATCH BASIN INFORMATION.
- WATER LINE TO BE INSTALLED WITH 4" MINIMUM COVER. SANITARY FORCE MAIN TO BE INSTALLED LOWER THAN WATER LINE WITH 12" MINIMUM VERTICAL SEPARATION. FORCE MAIN TO UTILIZE SDR 35 HDPE PIPE.



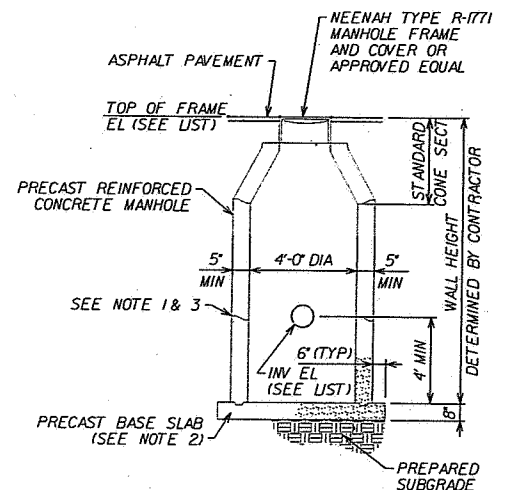
**CONFIDENTIALITY STATEMENT**  
This document contains confidential and proprietary information of the NATIONAL GRID USA companies. It is to be used by authorized contractors of those companies solely in connection with the specific project for which it has been transmitted. Any other use, its transmittal to third parties, or its reproduction without prior express written authorization of a NATIONAL GRID USA company is strictly prohibited.

**NATIONAL GRID USA Service Company, Inc.**  
PART OF NATIONAL GRID USA  
WESTBORO, MA

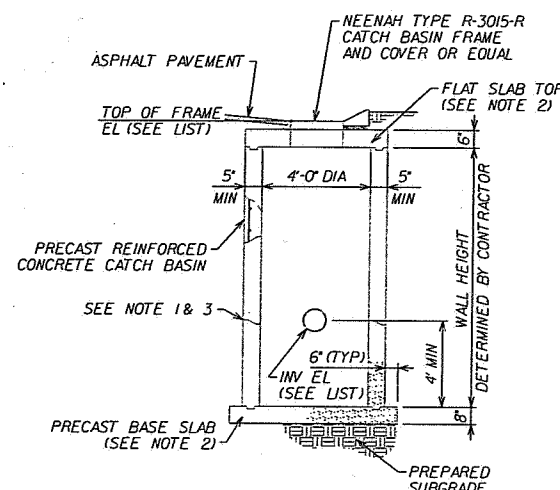
Site Development Plan For  
**New England Power Company**  
  
West Boylston, Massachusetts  
**WACHUSETT SUBSTATION NO. 47**  
Assessors Maps 149, 152 - Lots 43, 44

**PROPOSED SITE PLAN**  
SCALE: 1"=60'-0" DATE: 12/20/03

Prepared By:  
**NATIONAL GRID USA Service Company, Inc.**  
55 Bearfoot Road  
Northboro, MA 01532  
  
Drawing No. 3



TYPICAL PRECAST MANHOLE  
N.T.S.

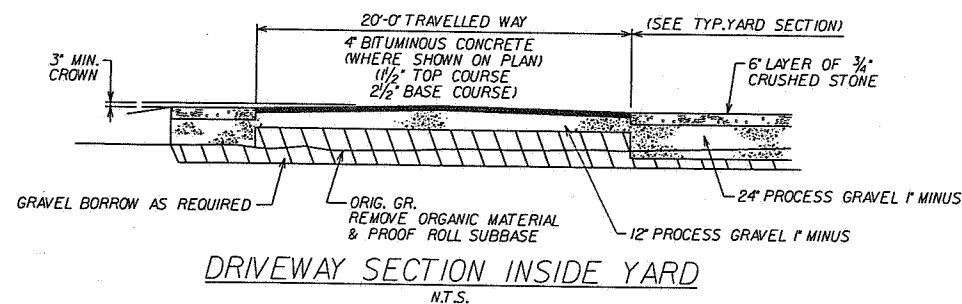


TYPICAL PRECAST CATCH BASIN  
N.T.S.

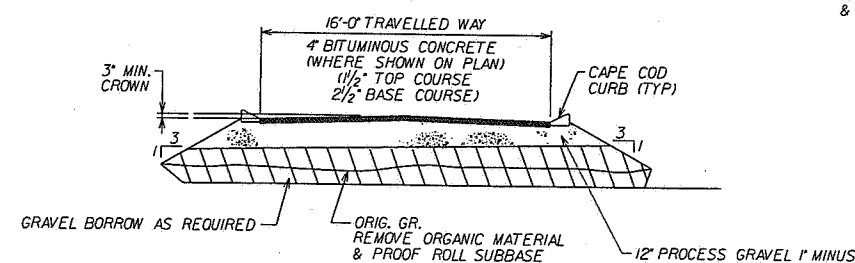
MANHOLE & CATCH BASIN DETAIL NOTES:

1. PRECAST REINFORCED CONCRETE MANHOLES AND CATCH BASINS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C478 UNLESS OTHERWISE INDICATED.
2. ALL TOP AND BOTTOM SLABS SHALL BE DESIGNED FOR HS-20 LOADING.
3. ALL JOINTS BETWEEN PRECAST MANHOLE OR CATCH BASIN SECTIONS SHALL BE GASKETED AND WATER TIGHT.

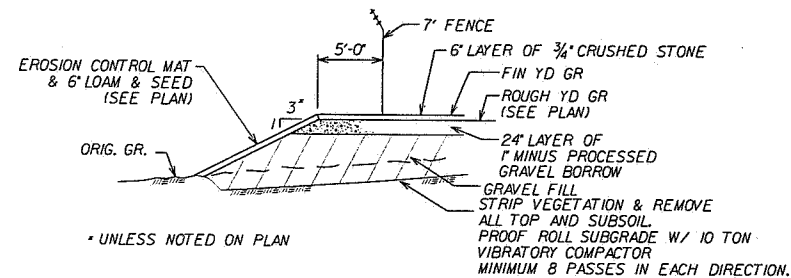
NO.	TOP OF FRAME EL.	INLET AND OUTLET INVERT ELEV.			
		NORTH	SOUTH	EAST	WEST
CB-1	488.35	—	—	—	484.00
CB-2	488.35	—	—	484.00	—
CB-3	473.35	—	469.30	469.40	—
CB-4	473.35	—	—	—	469.50
MH-1	488.00	483.80	—	483.90	483.90
MH-2	474.00	—	469.20	469.10	469.20



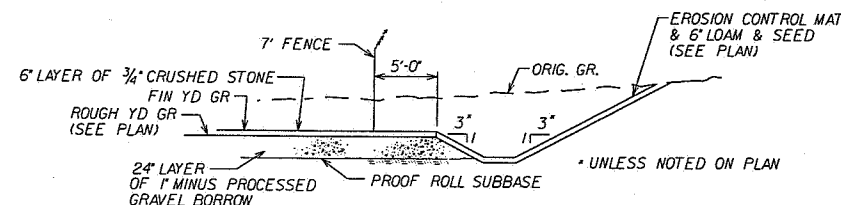
DRIVEWAY SECTION INSIDE YARD  
N.T.S.



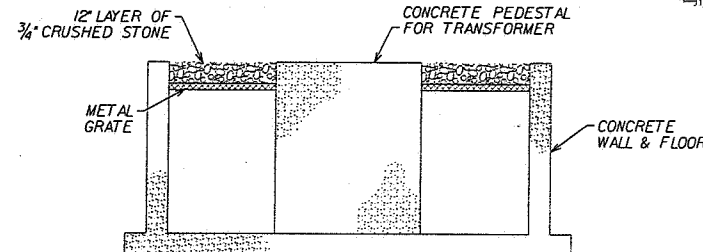
DRIVEWAY SECTION OUTSIDE YARD  
N.T.S.



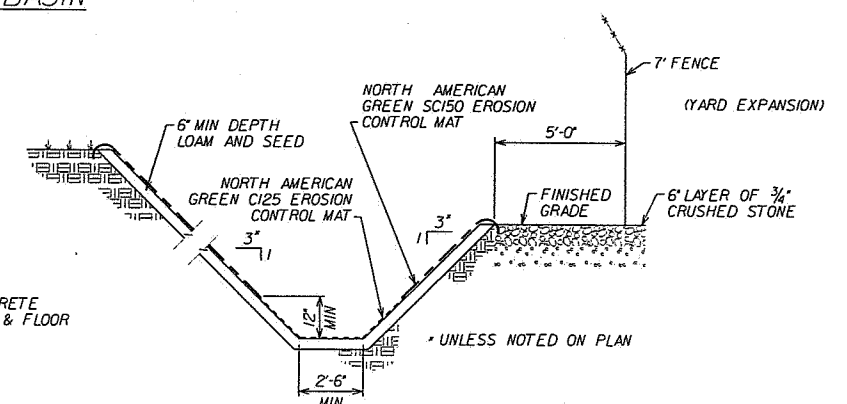
TYP YARD SECTION  
N.T.S.



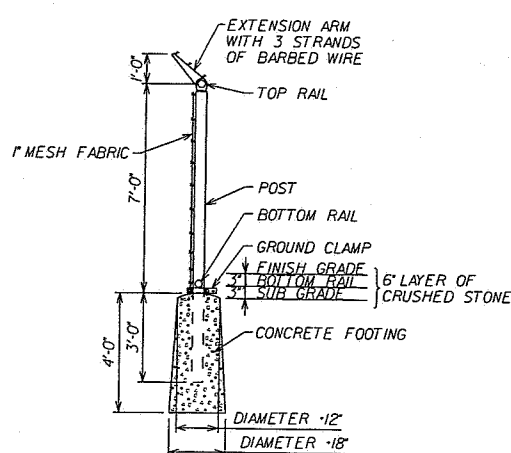
TYP CUT SECTION  
N.T.S.



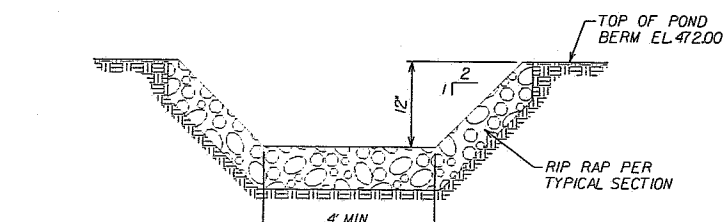
TYPICAL OIL CONTAINMENT BASIN  
N.T.S.



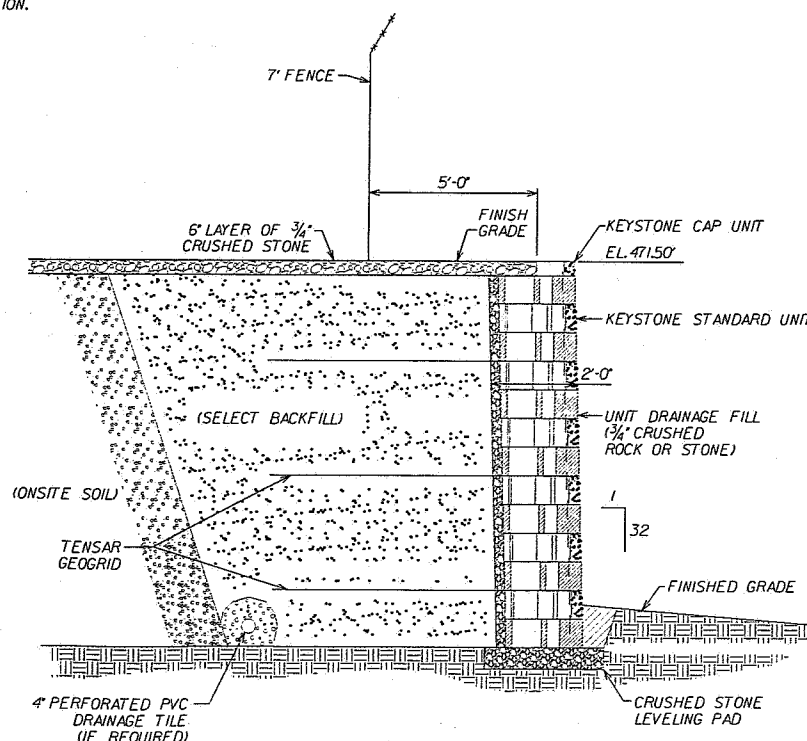
TYPICAL SECTION  
FOR SLOPE/SWALE PROTECTION  
N.T.S.



FENCE DETAIL  
N.T.S.



TYPICAL SECTION  
FOR POND DISCHARGE SLOPE PROTECTION  
N.T.S.



TYPICAL RETAINING WALL SECTION  
N.T.S.

**CONFIDENTIALITY STATEMENT**  
This document contains confidential and proprietary information of the NATIONAL GRID USA companies. It is to be used by authorized contractors of those companies solely in connection with the specific project for which it has been transmitted. Any other use, its transmittal to third parties, or its reproduction without prior express written authorization of a NATIONAL GRID USA company is strictly prohibited.

**NATIONAL GRID USA Service Company, Inc.**  
PART OF NATIONAL GRID USA  
WESTBORO, MA

Site Development Plan For  
**New England Power Company**  
**West Boylston, Massachusetts**  
**WACHUSETT SUBSTATION NO. 47**  
Assessors Maps 149, 152 - Lots 43, 44

**CONSTRUCTION DETAILS**

SCALE: NONE DATE: 12/2003

Prepared By:  
**NATIONAL GRID USA**  
Service Company, Inc.  
55 Bearfoot Road  
Northboro, MA 01532

Drawing No. 7



*Section 5*

---

BVW Delineation Field Data Forms

# DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: National Grid USA

Prepared by: Mason & Associates, Inc.

Project location: Wachusett Substation, W. Boylston DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation Observation Plot Number: 100-wetland Transect Number: WF-119 Date of Delineation: 6 May 2003

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Ground Cover:				
wrinkled goldenrod/ <i>Solidago rugosa</i>	5	15.6	NO	FAC*
St. John's wort/ <i>Hypericum perforatum</i>	7	21.9	YES	-
sensitive fern/ <i>Onoclea sensibilis</i>	20	62.5	YES	FACW*
Shrub:				
silky dogwood/ <i>Cornus amomum</i>	5	5.3	NO	FACW*
Morrow's honeysuckle/ <i>Lonicera morrowii</i>	90	94.7	YES	NI

\* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

## Vegetation conclusion:

Number of dominant wetland indicator plants: 1 Number of dominant non-wetland indicator plants: 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

## Section II. Indicators of Hydrology

### Hydric Soil Interpretation

#### 1. Soil Survey

Is there a published soil survey for this site?      yes      no

title/date: Worcester Co. Northeastern Part / 1985

map number: 19

soil type mapped: Hinckley sl (HgB) & Sudbury fsl (SdB)

hydric soil inclusions: Walpole

Are field observations consistent with soil survey?      yes      no

Remarks:

#### 2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
Ap	0 – 17"	10YR 2/1 (mucky)	
Bg	17 – 18"	2.5Y 4/2	
Refusal	18"		

Remarks:

#### 3. Other:

Conclusion: Is soil hydric?      yes      no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site Inundated: \_\_\_\_\_
- ☒ Depth to free water in observation hole: 17" \_\_\_\_\_
- ☐ Depth to soil saturation in observation hole: \_\_\_\_\_
- ☐ Water marks: \_\_\_\_\_
- ☐ Drift lines: \_\_\_\_\_
- ☐ Sediment deposits: \_\_\_\_\_
- ☐ Drainage patterns in BWV: \_\_\_\_\_
- ☐ Oxidized rhizospheres: \_\_\_\_\_
- ☐ Water-stained leaves: \_\_\_\_\_
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): \_\_\_\_\_

☐ Other: \_\_\_\_\_

### Vegetation and Hydrology Conclusion

Number of wetland indicator plants  
≥ number of non-wetland indicator plants      yes      no      ☒

Wetland hydrology present:

hydric soil present      ☒

other indicators of hydrology  
present      ☒

Sample location is in a BWV      ☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

# DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: National Grid USA Prepared by: Mason & Associates, Inc. Project location: Wachusett Substation, W. Boylston DEP File #: \_\_\_\_\_

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation Observation Plot Number: 100-Upland Transect Number: WF-119 Date of Delineation: 6 May 2003

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Ground Cover:				
haircap moss / <i>Polytrichum juniperinum</i>	10	100	YES	-
Shrub:				
smooth sumac / <i>Rhus glabra</i>	5	11.1	NO	-
sweet fern / <i>Comptonia peregrina</i>	40	88.9	YES	-
Tree:				
pitch pine / <i>Pinus rigida</i>	10	100	YES	FACU

\* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

## Vegetation conclusion:

Number of dominant wetland indicator plants: 0 Number of dominant non-wetland indicator plants: 3

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes ☐ no ☒

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

## Section II. Indicators of Hydrology

### Hydric Soil Interpretation

#### 1. Soil Survey

Is there a published soil survey for this site?      yes      no

title/date: Worcester Co. Northeastern Part / 1985

map number: 19

soil type mapped: Hinckley sl (HgB) & Sudbury fsl (SdB)

hydric soil inclusions: Walpole

Are field observations consistent with soil survey?      yes      no

Remarks:

#### 2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
Ap	0 – 12"	10YR 2/1	
AB	12 – 15"	10YR 3/3	
Bw	15 – 22"	10YR 4/4	

Remarks:

#### 3. Other:

Conclusion: Is soil hydric?      yes      no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site Inundated: \_\_\_\_\_
- ☐ Depth to free water in observation hole: \_\_\_\_\_
- ☐ Depth to soil saturation in observation hole: \_\_\_\_\_
- ☐ Water marks: \_\_\_\_\_
- ☐ Drift lines: \_\_\_\_\_
- ☐ Sediment deposits: \_\_\_\_\_
- ☐ Drainage patterns in BVW: \_\_\_\_\_
- ☐ Oxidized rhizospheres: \_\_\_\_\_
- ☐ Water-stained leaves: \_\_\_\_\_
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): \_\_\_\_\_

☐ Other: \_\_\_\_\_

### Vegetation and Hydrology Conclusion

Number of wetland indicator plants      yes      no  
≥ number of non-wetland indicator plants      ☐      ☒

Wetland hydrology present:

hydric soil present      ☐      ☒

other indicators of hydrology

present      ☐      ☒

**Sample location is in a BVW**      ☐      ☒

*Submit this form with the Request for Determination of Applicability or Notice of Intent.*



# DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: National Grid USA Prepared by: Mason & Associates, Inc. Project location: Wachusett Substation, W. Boylston DEP File #: \_\_\_\_\_

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation Observation Plot Number: 200-wetland Transect Number: WF-208 Date of Delineation: 6 May 2003

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Ground Cover:				
sedge / <i>Carex</i> sp.	20	50	YES	-
wrinkled goldenrod / <i>Solidago rugosa</i>	20	50	YES	FAC*
Shrub:				
Morrow's honeysuckle / <i>Lonicera morrowii</i>	35	77.8	YES	NI
steep-le-bush / <i>Spiraea tomentosa</i>	10	22.2	YES	FACW*

\* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

## Vegetation conclusion:

Number of dominant wetland indicator plants: 2 Number of dominant non-wetland indicator plants: 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☒ yes ☐ no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

## Section II. Indicators of Hydrology

### Hydric Soil Interpretation

#### 1. Soil Survey

Is there a published soil survey for this site?      yes      no

title/date: Worcester Co. Northeastern Part / 1985

map number: 19

soil type mapped: Hinckley sandy loam (HgC)

hydric soil inclusions:      none

Are field observations consistent with soil survey?      yes      no

Remarks:

#### 2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
Ap	0 – 10"	10YR 2/1	
AB	10 – 12"	10YR 3/3	
Bg	12 – 17"	2.5Y 4/2	

Remarks:

#### 3. Other:

Conclusion: Is soil hydric?      yes      no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site Inundated: \_\_\_\_\_
- ☐ Depth to free water in observation hole: \_\_\_\_\_
- ☐ Depth to soil saturation in observation hole: \_\_\_\_\_
- ☐ Water marks: \_\_\_\_\_
- ☐ Drift lines: \_\_\_\_\_
- ☐ Sediment deposits: \_\_\_\_\_
- ☐ Drainage patterns in BVW: \_\_\_\_\_
- ☐ Oxidized rhizospheres: \_\_\_\_\_
- ☐ Water-stained leaves: \_\_\_\_\_
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): \_\_\_\_\_

☐ Other: \_\_\_\_\_

### Vegetation and Hydrology Conclusion

Number of wetland indicator plants ≥ number of non-wetland indicator plants	yes <input checked="" type="checkbox"/>	no <input type="checkbox"/>
Wetland hydrology present: hydric soil present	<input checked="" type="checkbox"/>	<input type="checkbox"/>
other indicators of hydrology present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Sample location is in a BVW</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Submit this form with the Request for Determination of Applicability or Notice of Intent.

# DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: National Grid USA Prepared by: Mason & Associates, Inc. Project location: Wachusett Substation, W. Boylston DEP File #: \_\_\_\_\_

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation Observation Plot Number: 200-Upland Transect Number: WF-208 Date of Delineation: 6 May 2003

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Ground Cover:				
wrinkled goldenrod / <i>Solidago rugosa</i>	3	100	YES	FAC*
Shrub:				
steeplesbush / <i>Spiraea tomentosa</i>	5	100	YES	FACW*
Sapling:				
quaking aspen / <i>Populus tremula</i>	60	100	YES	FACU

\* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

## Vegetation conclusion:

Number of dominant wetland indicator plants: 2 Number of dominant non-wetland indicator plants: 1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☒ yes ☐ no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

## Section II. Indicators of Hydrology

### Hydric Soil Interpretation

#### 1. Soil Survey

Is there a published soil survey for this site?      yes      no

title/date: Worcester Co. Northeastern Part / 1985

map number: 19

soil type mapped: Hinckley sandy loam (HgC)

hydric soil inclusions: none

Are field observations consistent with soil survey?      yes      no

Remarks:

#### 2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
Ap	0 – 13"	10YR 2/1	
AB	13 – 18"	10YR 3/3	
Bw	18 – 26"	10YR 4/4	10YR 4/2 (fine, med.)

Remarks:

#### 3. Other:

Conclusion: Is soil hydric?      yes      no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site Inundated: \_\_\_\_\_
- ☐ Depth to free water in observation hole: \_\_\_\_\_
- ☐ Depth to soil saturation in observation hole: \_\_\_\_\_
- ☐ Water marks: \_\_\_\_\_
- ☐ Drift lines: \_\_\_\_\_
- ☐ Sediment deposits: \_\_\_\_\_
- ☐ Drainage patterns in BVW: \_\_\_\_\_
- ☐ Oxidized rhizospheres: \_\_\_\_\_
- ☐ Water-stained leaves: \_\_\_\_\_
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): \_\_\_\_\_

☐ Other: \_\_\_\_\_

### Vegetation and Hydrology Conclusion

Number of wetland indicator plants ≥ number of non-wetland indicator plants	yes <input checked="" type="checkbox"/>	no <input type="checkbox"/>
Wetland hydrology present: hydric soil present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
other indicators of hydrology present	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Sample location is in a BVW</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Submit this form with the Request for Determination of Applicability or Notice of Intent.

# DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: National Grid USA      Prepared by: Mason & Associates, Inc.      Project location: Wachusett Substation, W. Boylston DEP File #: \_\_\_\_\_

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation      Observation Plot Number: 600-wetland      Transect Number: WF-605      Date of Delineation: 6 May 2003

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Ground Cover:				
haircap moss / <i>Polytrichum juniperinum</i>	50	69.4	YES	-
wrinkled goldenrod / <i>Solidago rugosa</i>	22	30.6	YES	FAC*
Shrub:				
alder / <i>Alnus rugosa</i>	5	10	NO	FACW+*
steep-le-bush / <i>Spiraea tomentosa</i>	45	90	YES	FACW*

\* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 2      Number of dominant non-wetland indicator plants: 1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☒ yes      ☐ no

## Section II. Indicators of Hydrology

### Hydric Soil Interpretation

#### 1. Soil Survey

Is there a published soil survey for this site?      yes      no

title/date: Worcester Co. Northeastern Part / 1985

map number: 19

soil type mapped: Hinckley sandy loam (HgB)

hydric soil inclusions:      none

Are field observations consistent with soil survey?      yes      no

Remarks:

#### 2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
Ap	0 – 14"	10YR 2/2	
Bg	14 – 20"	2.5Y 4/2	10YR 4/6 (few, fine)
Refusal	20"		

Remarks:

#### 3. Other:

Conclusion: Is soil hydric?      yes      no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site Inundated: \_\_\_\_\_
- ☐ Depth to free water in observation hole: \_\_\_\_\_
- ☐ Depth to soil saturation in observation hole: \_\_\_\_\_
- ☐ Water marks: \_\_\_\_\_
- ☐ Drift lines: \_\_\_\_\_
- ☐ Sediment deposits: \_\_\_\_\_
- ☐ Drainage patterns in BVW: \_\_\_\_\_
- ☒ Oxidized rhizospheres: \_\_\_\_\_
- ☐ Water-stained leaves: \_\_\_\_\_
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): \_\_\_\_\_
- ☐ Other: \_\_\_\_\_

### Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wetland hydrology present: hydric soil present	<input checked="" type="checkbox"/>	<input type="checkbox"/>
other indicators of hydrology present	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Sample location is in a BVW</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Submit this form with the Request for Determination of Applicability or Notice of Intent.

# DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: National Grid USA

Prepared by: Mason & Associates, Inc.

Project location: Wachusett Substation, W. Boylston DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation Observation Plot Number: 600-Upland Transect Number: WF-605 Date of Delineation: 6 May 2003

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Ground Cover:				
haircap moss / <i>Polytrichum juniperinum</i>	15	27.3	YES	-
wrinkled goldenrod / <i>Solidago rugosa</i>	40	72.7	YES	FAC*
Shrub:				
hawthorn / <i>Crataegus crus-galli</i>	17	23.6	YES	FACU
Morrow's honeysuckle / <i>Lonicera morrowii</i>	30	41.7	YES	NI
steeplesbush / <i>Spiraea tomentosa</i>	25	34.7	YES	FACW*

\* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

## Vegetation conclusion:

Number of dominant wetland indicator plants: 2 Number of dominant non-wetland indicator plants: 3

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes ☐ no ☒

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

## Section II. Indicators of Hydrology

### Hydric Soil Interpretation

#### 1. Soil Survey

Is there a published soil survey for this site? ☒ yes ☐ no

title/date: Worcester Co. Northeastern Part / 1985

map number: 19

soil type mapped: Hinckley sandy loam (HgB)

hydric soil inclusions: none

Are field observations consistent with soil survey? ☐ yes ☒ no

Remarks:

#### 2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
Ap	0 – 8"	10YR 2/2	
AB	8 – 15"	10YR 3/2	
Bw	15 – 21"	10YR 4/4	
Refusal	21"		

Remarks:

#### 3. Other:

Conclusion: Is soil hydric? ☐ yes ☒ no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site Inundated: \_\_\_\_\_
- ☐ Depth to free water in observation hole: \_\_\_\_\_
- ☐ Depth to soil saturation in observation hole: \_\_\_\_\_
- ☐ Water marks: \_\_\_\_\_
- ☐ Drift lines: \_\_\_\_\_
- ☐ Sediment deposits: \_\_\_\_\_
- ☐ Drainage patterns in BVW: \_\_\_\_\_
- ☐ Oxidized rhizospheres: \_\_\_\_\_
- ☐ Water-stained leaves: \_\_\_\_\_
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): \_\_\_\_\_

☐ Other: \_\_\_\_\_

### Vegetation and Hydrology Conclusion

Number of wetland indicator plants ☐ yes ☒ no  
≥ number of non-wetland indicator plants

Wetland hydrology present: ☐ yes ☒ no  
hydric soil present

other indicators of hydrology ☐ yes ☒ no  
present

Sample location is in a BVW ☐ yes ☒ no

Submit this form with the Request for Determination of Applicability or Notice of Intent.